STEREO CASSETTE TAPE DECK

X-7WX

INSTRUCTION MANUAL

KENWOOD

KENWOOD CORPORATION

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Introduction

Your choice of this product indicates that you are a devotee to excellence in sound reproduction.
We appreciate your patronage and take pride in the long tradition of quality components.
So that you can get the most out of your unit, we suggest that you take the time to read through this manual before you hook up and operate your system. This will acquaint you with operating features, and system-connection considerations, so that your listening pleasure will be enhanced right from the start. You will notice that in all aspects of planning, engineering, styling, operating convenience and adaptability, we have sought to anticipate your needs and desires.
Keep this manual handy for future reference.

For your records

Record the serial number, found on the back of the unit, in the spaces designated on the warranty card, and in the space provided below. Refer to the model and serial numbers whenever you call upon your dealer for information or service on this product.
Model _____ Serial Number _____

Unpacking

Unpack the unit carefully and make sure that all accessories and cables are put aside so they will not be lost.
Examine the unit for any possibility of shipping damage. If your unit is damaged or fails to operate, notify your dealer immediately. If your unit was shipped to you directly, notify the shipping company without delay. Only the consignee (the person or company receiving the unit) can file a claim against the carrier for shipping damage.
We recommend that you retain the original carton and packing materials for use should you transport or ship the unit in the future.

Installation notes

- Install the unit on a flat, vibration-free rigid table.
- Do not place the unit near a heat producing equipment such as a radiator. Avoid direct sunlight.
- The unit may not function properly if used at extremely low, or freezing temperatures. The ideal ambient temperature is above +5°C (41°F).
- Do not store or use the unit in a dusty location or in a moist atmosphere. Select a location where air is well ventilated.
- Keep the unit away from a source of magnetic fields such as TV sets, speaker systems, radios, motorized toys or magnetized objects.
- Operate the unit on rated power supply voltage (± 5%). Irregular power voltage will result in incorrect operation.

DOLBY and the double-D symbol are trademarks of Dolby Laboratories Lincensing Corporation.
Noise reduction circuit made under license from Dolby Laboratories Licensing Corporation.

WARNING:
TO PREVENT FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

WARNING NOTICE:
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Safety precautions

CAUTION RISK OF ELECTRIC SHOCK DO NOT OPEN	CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.
	The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure; that may be of sufficient magnitude to constitute a risk of electric shock to persons.
	The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

Before applying power

Important!

Europe and Saudi Arabia

Units shipped to Europe and Saudi Arabia are designed for operation on 220 volts AC only. These units are not equipped with an AC voltage selector switch and the discussion of such a switch that follows should be disregarded.

All other countries

Units shipped to countries other than the above countries are equipped with an AC voltage selector switch of the amplifier. Refer to the following paragraph for the proper setting of this switch.

AC voltage selection

This unit operates on 120 volts or 220 ~ 240 volts AC. The AC voltage selector switch on the rear panel is set to the voltage that prevails in the area to which the unit is shipped. Before connecting the power cord to your AC outlet, make sure that the setting position of this switch matches your line voltage. If not, it must be set to your voltage in accordance with the following direction.

Note:

Our warranty does not cover damage caused by excessive line voltage due to improper setting of the AC voltage selector switch.

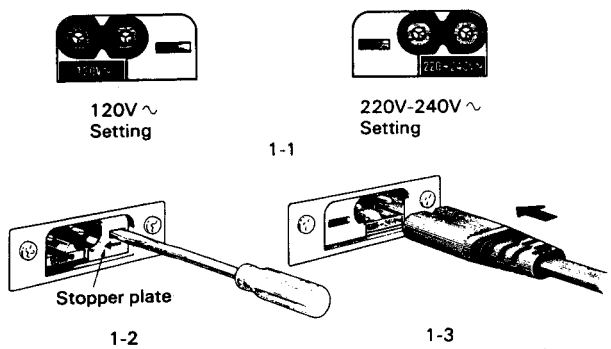


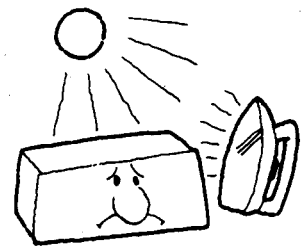
Fig. 1 AC voltage selector

1. Before plugging in this unit, make sure that the position of the AC voltage selector conforms to your line (mains) voltage. If not, it must be reset. See Fig. 1-1.
2. To reset the selector, slide the stopper plate to the opposite side with a screwdriver or other pointed tool. See Fig. 1-2.
3. Insert the power cord securely. See Fig. 1-3.

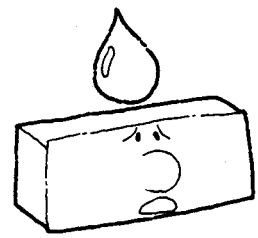
Before operation

Notes on installation

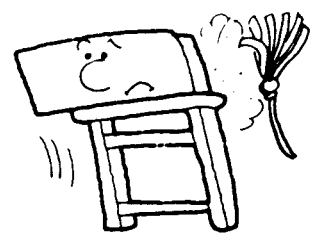
Do not place the unit in a place which is exposed to direct sunlight, near a heating appliance, etc.



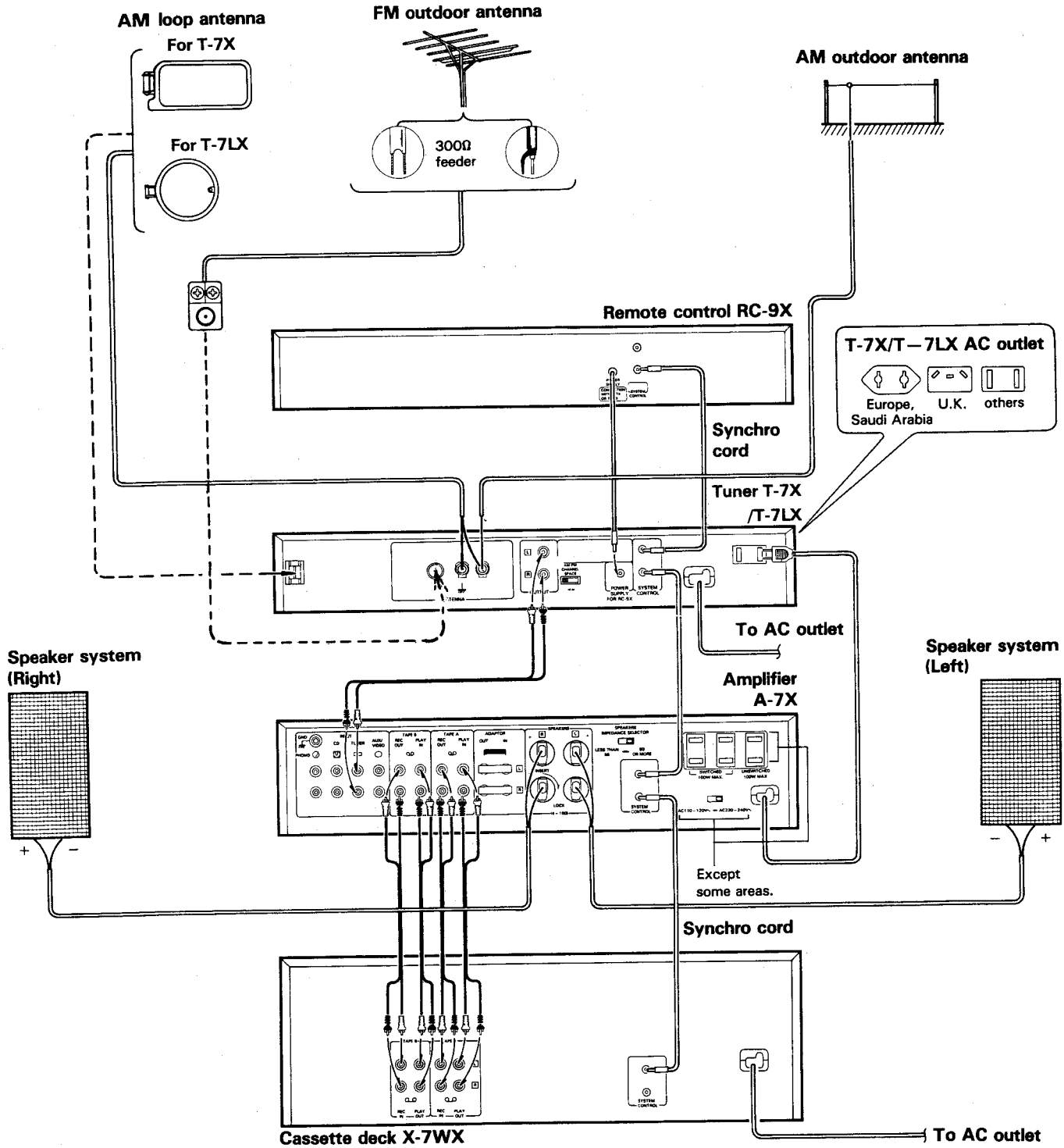
Do not place a vase containing water, makeup, etc. on the unit. Do not use in a humid place.



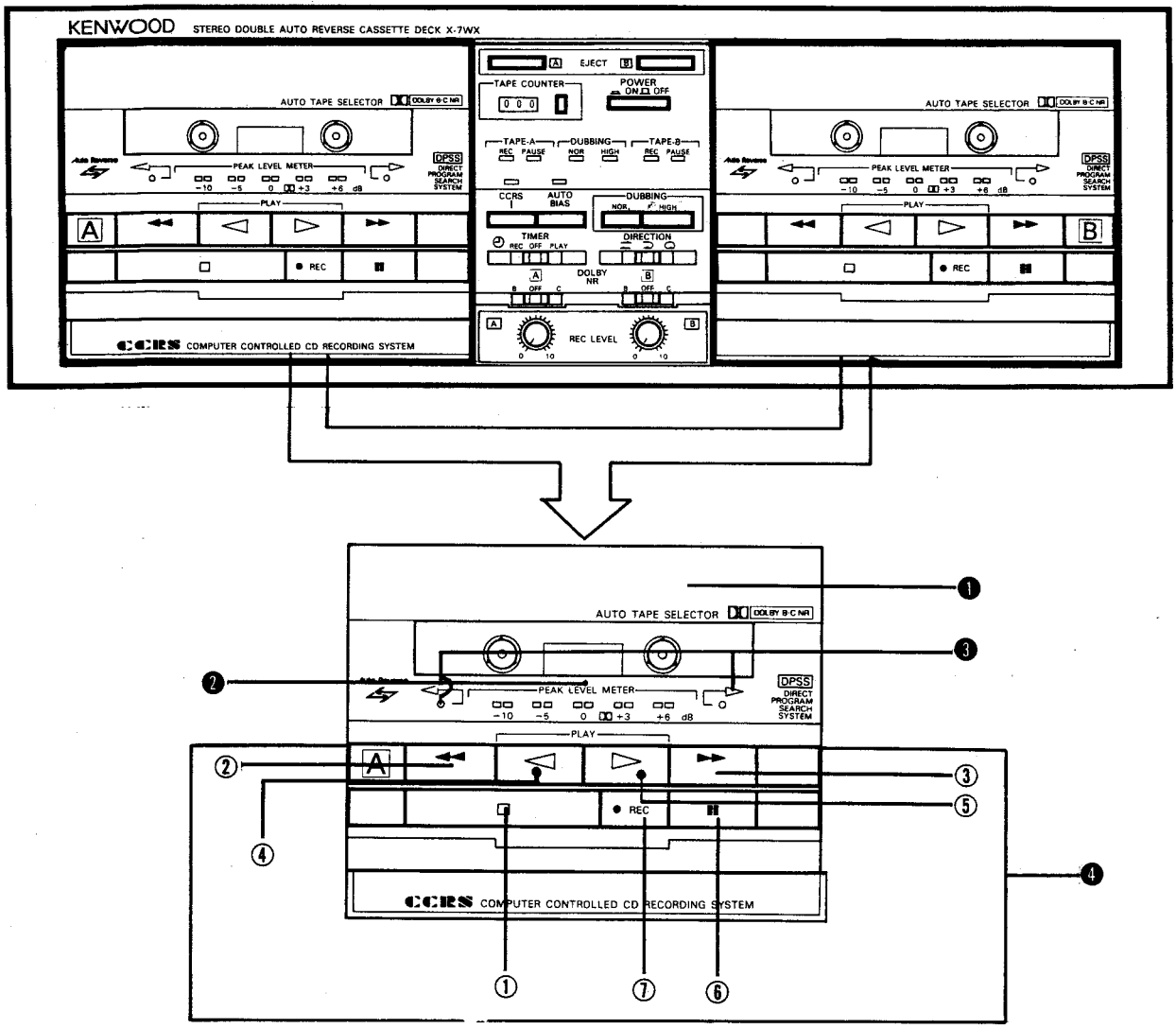
Choose a location that is relatively free from vibration or excessive dust.



Connections



Function of cassette deck



❶ Cassette holder

❷ PEAK LEVEL meter

Indicates the recording level during recording and the peak value of the playback level during play back.

❸ Direction indicator

Indicates running direction of tape.
▷ indicator is for forward.
◁ indicator is for reverse.

❹ Operation keys

① STOP (□)
Press this key to stop the tape.

② REWIND (◀◀)
Press this key to advance the tape rapidly to the left.

③ FAST FORWARD (▶▶)
Press this key to advance the tape rapidly to the right.

④ REVERSE PLAY (◁)
Press this key to playback the back side of the cassette.

⑤ PLAY (▷)
Press this key to play the front side of the cassette.

⑥ PAUSE (II)
Press this key to stop the tape for a moment during playback or recording.

⑦ REC (●)
Press this key to record.

❺ A-EJECT, B-EJECT key

Open the cassette holder of the corresponding deck.
Do not press the key during operation.

❻ TAPE COUNTER/reset button

The number changes according to the tape run.
Pressing RESET displays "000" (A deck only)

❼ DOLBY NR switch

To play back the tape recorded with DOLBY NR (Noise Reduction) or to record with DOLBY NR, set this switch to B or C.

Note:

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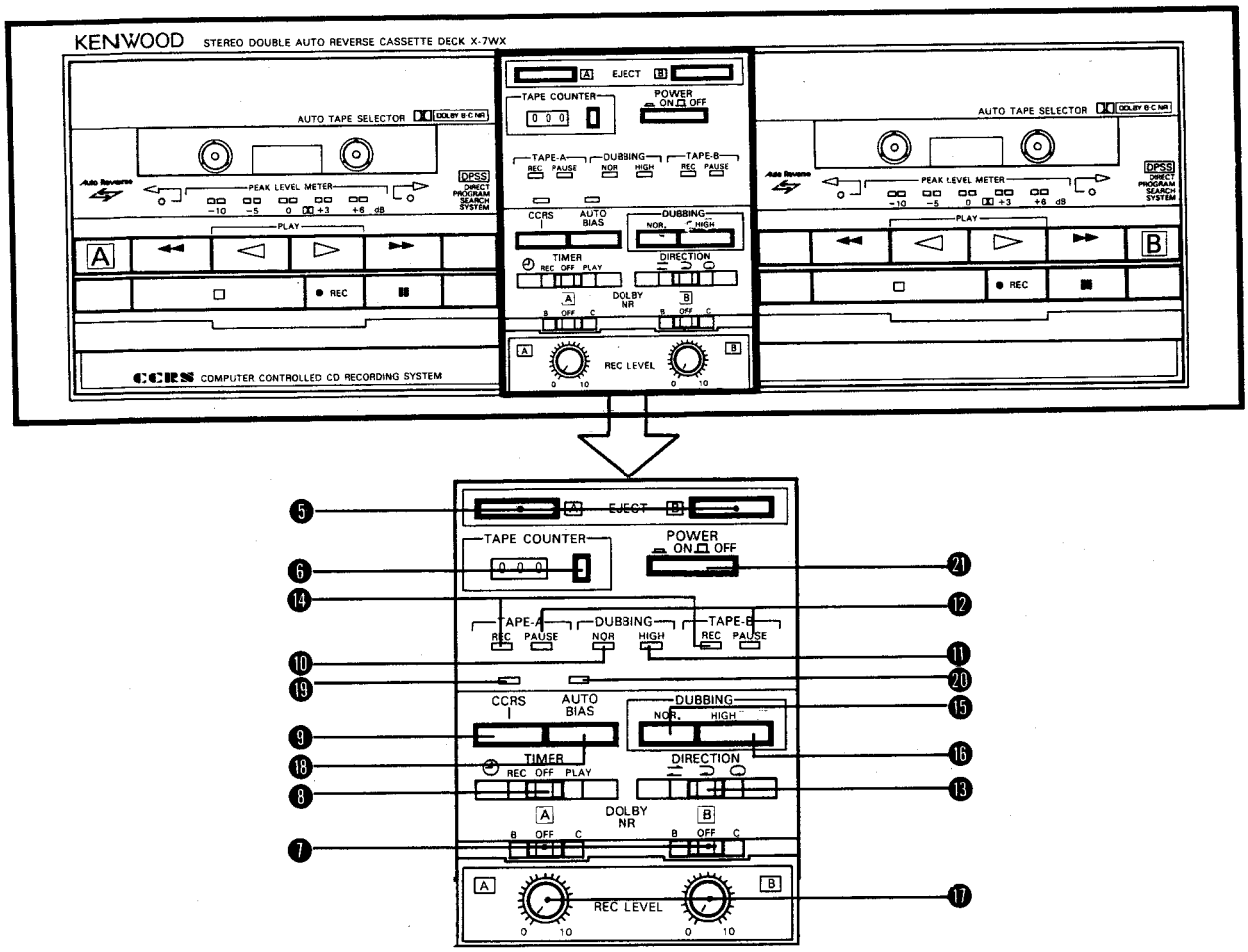
Noise reduction circuit made under license from Dolby Laboratories Licensing Corporation.



❽ TIMER STANDBY switch (TIMER)

To set the unit to record or playback at a predetermined time

OFF : Set to OFF when the timer is used for the tuner or when the timer is not used for the cassette deck (when the timer does not start the cassette deck).

PLAY : Set to PLAY for playback.

REC : Set to REC for recording.

❾ CCRS (Computer CD Recording System) key and indicator (B deck only)

Used to record the compact disc sound with optimum recording level.

❿ NORMAL DUBBING indicator

⓫ HIGH SPEED DUBBING indicator (HIGH)

⓬ PAUSE indicator

⓭ DIRECTION switch

NORMAL mode (⇄): Set to this position, to record or play back on one side of the tape. The tape stops when one side ends.

REVERSE mode (⇄): Set to this position, to record or play back on both sides.

ENDLESS mode (↻): Set to this position, to play both sides repeatedly.

⓮ REC indicator

⓯ NORMAL DUBBING key (NOR.)

Pressing this key illuminates the NORMAL DUBBING indicator and dubbing can be done from A to B deck.

⓰ HIGH SPEED DUBBING key (HIGH)

Pressing this key illuminates the HIGH SPEED DUBBING indicator and high speed dubbing can be done from A to B deck.

⓱ REC LEVEL knob

Controls recording level.

⓲ AUTO BIAS adjustment key (B deck only)

Used to adjust the amount of bias appropriately for tape used. When the optimum amount of bias is set, the indicator lights.

⓳ CCRS indicator

⓴ AUTO BIAS indicator

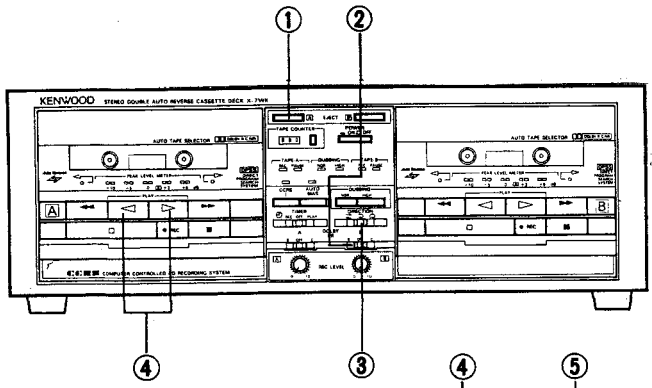
㉑ POWER switch

Press this switch to turn on the power. To turn off, press the switch again.

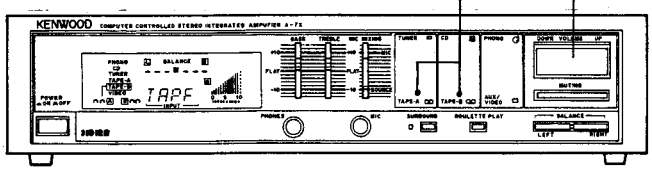
To listen to cassette tape

■ Set TIMER STANDBY switch on a cassette deck to OFF and turn ON the power.

How to play back tapes (Same for A and B deck)



A-7X



① **Press EJECT key.**
Set the desired cassette tape with its running side down into the cassette holder and close it.

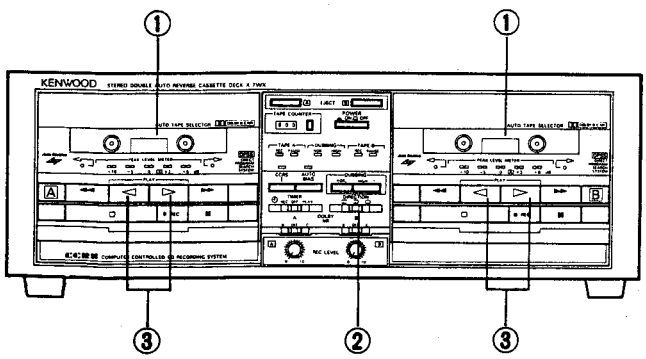
② **Adjust DOLBY NR to the contents of the cassette tape.**
Tapes recorded with DOLBY NR should be set to B or C, otherwise set to OFF to listen.

③ **Set DIRECTION key as desired.**

④ **Press PLAY key (▷), REVERSE PLAY key (◁) or TAPE on the amplifier.**
To operate with the amplifier, press TAPE A key for playback on A deck and press TAPE B for the playback on B deck.

⑤ **Control the volume by VOLUME control on the amplifier.**

Relay play



This device can repeat the playback of cassette tapes in both A and B decks alternately.

① **Set cassette tapes in both A and B decks.**

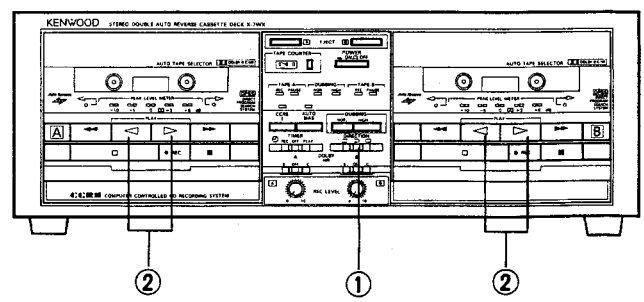
② **Set DIRECTION switch to normal mode (⇄) or reverse mode (⇉).**

③ **Press PLAY key (▷) or REVERSE PLAY (◁) on A or B deck.**
When DIRECTION switch is set to normal mode (⇄) at the end of playback the cassette tape rewinds, then the other deck starts playing. When DIRECTION switch is set to reverse mode (⇉), at the end of reverse playback, the other deck starts playing.

Relay play notes:

1. Place a cassette tape in A and B decks and press a PLAY key (▷) or REVERSE PLAY key (◁). This automatically sets the switch to relay play mode.
2. When the direction mode switch is set to " ⇄ " position relay play is not performed.
3. When setting only one deck to play mode, do not set a tape in other deck.
4. Rewind the tapes in both decks. When relay play starts at the end of the tape in both A and B decks, it will not operate correctly.
5. Avoid using exceedingly short tape which finishes playing time while the other tape is rewinding. Malfunction will result.

Endless play in A or B deck

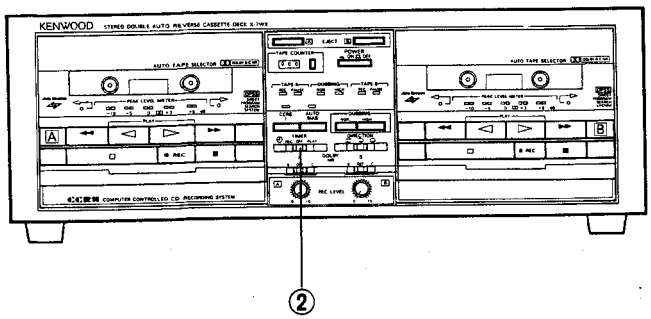


① **Set DIRECTION switch to endless mode (⇄).**

② **Press PLAY or REVERSE PLAY keys on A or B deck.**

③ **Both sides of the tape are on endless play.**

Timer play



① **To set the timer, see the timer instructions (T-7X/T-7LX) "How to set program timer".**

② **Set TIMER STANDBY switch on the cassette deck to PLAY.**

③ **Set a cassette tape.**

④ **The tape plays at the timer ON time.**

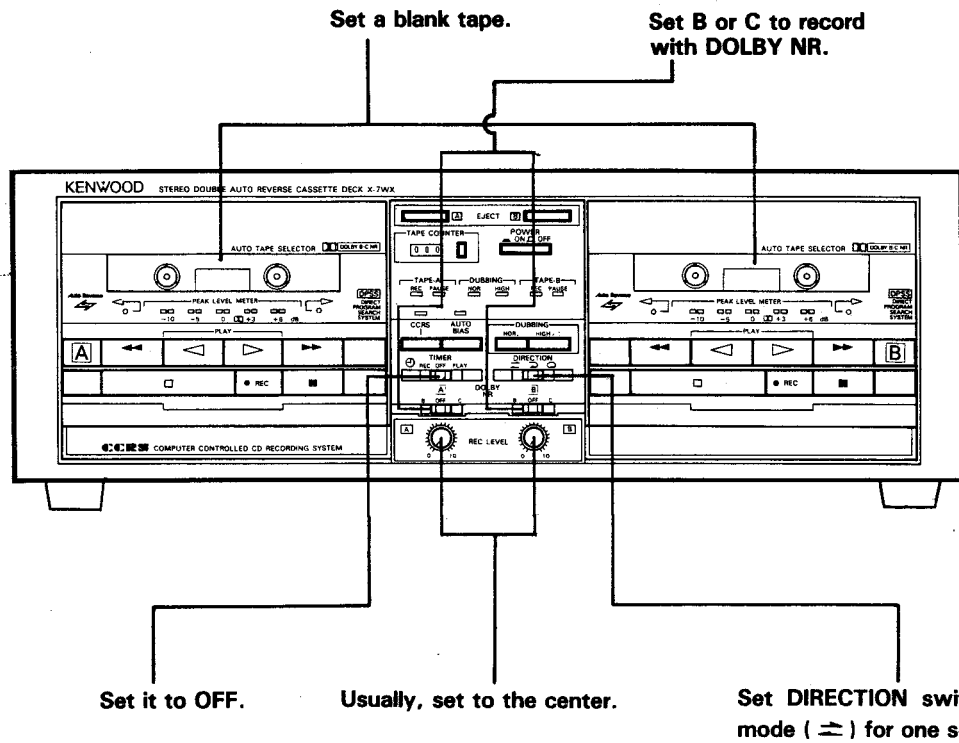
Note:

If timer play is used with cassette tapes in both A and B decks, and timer play is used with normal mode (⇄) or reverse mode (⊃), relay play automatically starts.

How to record

Recording is possible in both A and B decks of the X-7WX.

To set the cassette deck as shown below is convenient


Set a blank tape.
Set B or C to record with DOLBY NR.
Set it to OFF.
Usually, set to the center.
Set DIRECTION switch to normal mode (⇄) for one side of the tape and set to reverse mode (⇉) for both sides.

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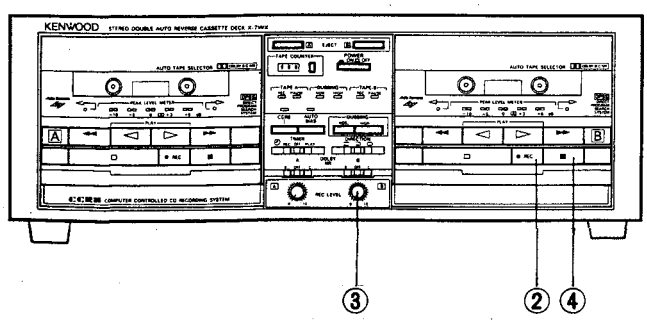
Noise reduction circuit made under license from Dolby Laboratories Licensing Corporation.

Recording level setting

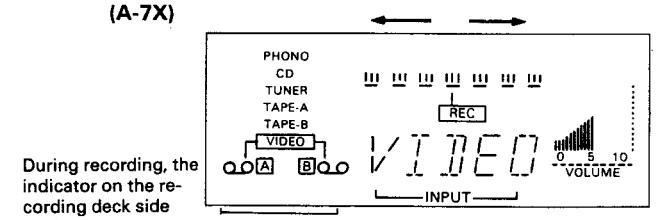
① **Play the desired source.**
② **Press PAUSE and REC key at the same time to pause recording.**
③ **Adjust recording level referring to PEAK LEVEL meter so that +6dB is illuminated.**

- Usually, center REC LEVEL control to obtain the appropriate level.

Normal recording (Same for A and B deck)



Display window of amplifier (A-7X) : (Exmaple: VIDEO) (A-7X)



During recording, the indicator on the recording deck side blinkes.

Arrows ("←" and "→") show the moving direction of the display.

① **Press the input mode key on amplifier, selecting the desired source from the amplifier then play the source.**
② **Press REC key.**
REC mode indicator on the amplifier flashes, then recording starts.
③ **Adjust REC LEVEL control checking PEAK LEVEL meter when REC LEVEL is not appropriate.**
④ **Press PAUSE key to pause recording.**
Press REC key to re-start recording.

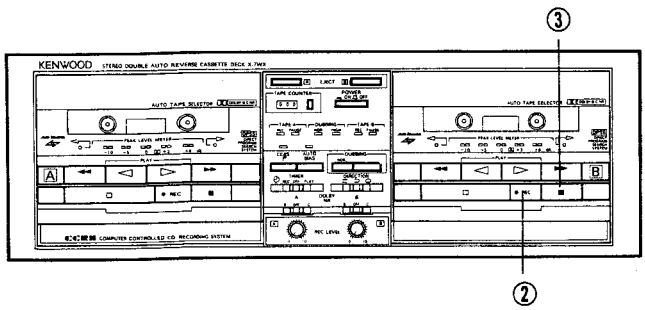
AUTO BIAS Adjustment (B Deck only)

After loading a recordable cassette on B deck, pressing the AUTO BIAS key sets the optimum amount of bias for the tape used automatically for approx. 50 seconds.
While adjusting the bias, the indicator blinkes and when the adjustment has been completed, the indicator lights.
(Operation during adjustment will be performed in the order ① record mode, ② rewind, ③ playback mode, ④ rewind.)

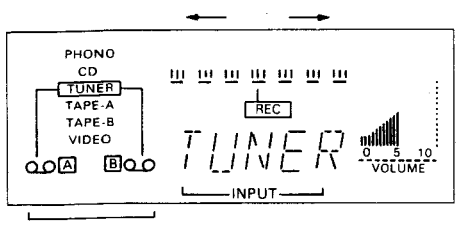
Note:

1. **Auto Bias adjustment does not function unless both A and B decks are in the stop mode.**
2. **During Auto Bias adjustment, A deck does not function, and no key will be accepted on B deck other than the STOP key.**
3. **When the STOP key is pressed during adjustment, the Auto Bias adjustment operation will be stopped and the deck will enter the stop mode.**
4. **The adjusted bias will be cancelled by turning off the power or ejecting the tape. When the power is turned on, the bias will be set to the reference level.**
5. **If the remaing tape is quite a low, the Auto Bias adjustment operation may be released in the middle.**

Recording from Tuner (T-7X/T-7LX)
(Common to A and B decks)



Display window of amplifier (A-7X)



During recording, the indicator of the recording deck side blinkes.

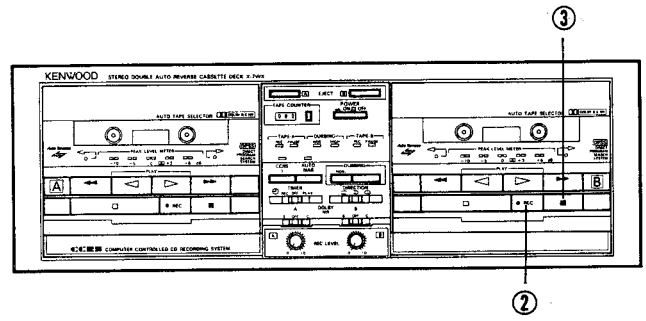
Arrows ("←" and "→") show the moving direction of the display.

① **Press TUNER on the INPUT SELECTOR switches of amplifier (A-7X).**

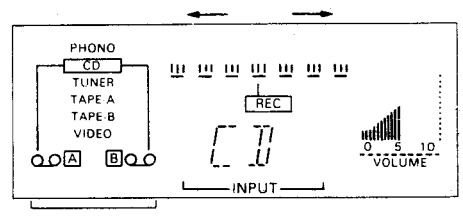
② **Press the ● REC key.**
The BALANCE indicator of the amplifier will display the moving pattern toward left and the right.

③ **To temporarily stop recording, press the PAUSE (II) key.**
To resume recording, press the ● REC key.

Recording from CD Player (DP-770D)
(Common to A and B decks)



Display window of amplifier (A-7X)



During recording, the indicator of the recording deck side blinkes.

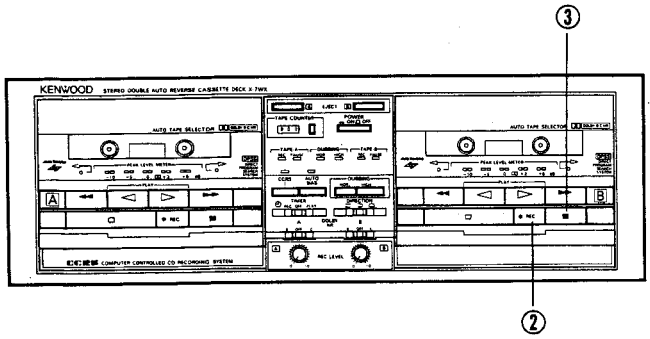
Arrows ("←" and "→") show the moving direction of the display.

① **Press the PLAY/II PAUSE key twice (DP-770D).**
The CD player enters the pause mode and the INPUT mode indicator on the amplifier is changed to CD.

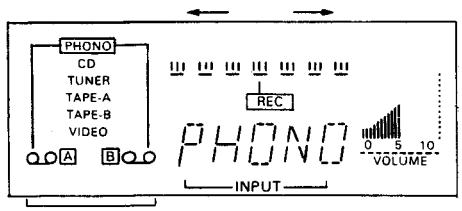
② **Press the ● REC key then the PLAY/II PAUSE key on the CD player.**
The BALANCE indicator on the amplifier will display the moving pattern toward the left and right.

③ **To temporarily stop recording, press the PAUSE (II) key.**
To resume recording press the ● REC key.

Recording from Turntable
(Common to A and B decks)



Display window of amplifier (A-7X)



During recording, the indicator of the recording deck side blinkes.

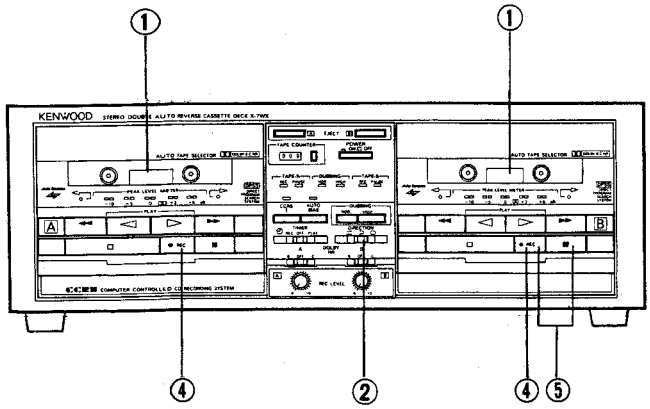
Arrows ("←" and "→") show the moving direction of the display.

① **Press the PLAY/CUT key on the turntable (P-7X).**
The tonearm starts moving and the INPUT mode indicator on the amplifier is changed to PHONO.

② **When the tonearm is lowered on the recrod surface, press the ● REC key.**
The BALANCE indicator on the amplifier will display the moving pattern toward the left and right.

③ **To temporarily stop recording, press the PAUSE (❚❚) key.**
To resume recording press the ● REC key.

Relay recording



This device can continuously record in A and B decks. Convenient for long recordings such as classical music.

① **Set tapes in both A and B decks.**

② **Set DIRECTION switch to normal mode (⇀) or reverse mode (⇄).**

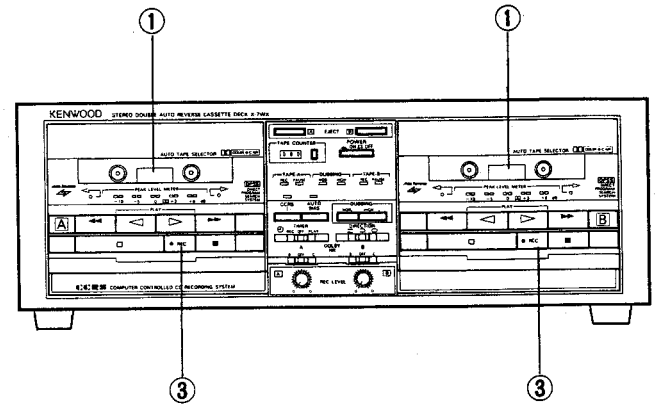
③ **Press the desired INPUT SELECTOR switch on the amplifier for the source to be recorded.**

④ **Press REC key in A or B deck.**

⑤ **Press REC and PAUSE keys on the other deck at the same time to pause the recording.**
(Make sure the recording mode indicator on the amplifier for A and B are the same.)
Adjust record level by turning the REC LEVEL control.
When DIRECTION switch is set to normal mode (⇀),when one side ends, the other deck starts recording.
When DIRECTION switch is set to reverse mode (⇄), when the reverse side ends the other deck starts recording.
Set a new tape in the deck that finished recording and pause the recording. By doing this, continuous recording is possible.

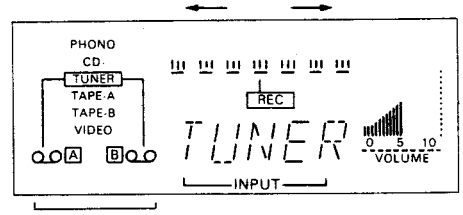
Note:
If DIRECTION switch is set to endless mode (⇆), relay recording does not operate.

To record the same source in both A and B decks



Display window of an amplifier (A-7X) : (Example: Tuner)

(A-7X)



Confirm that the lit indicator source is identical to that displayed.

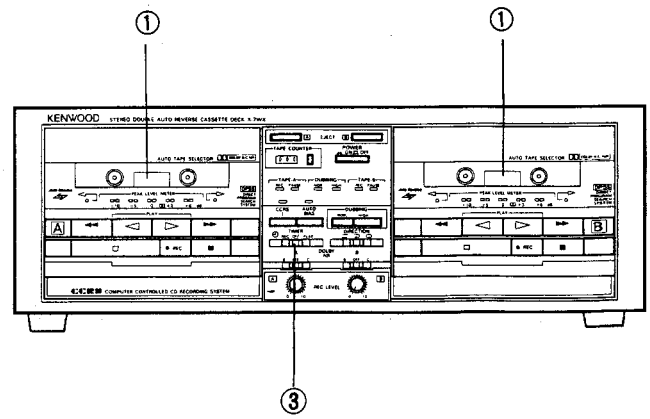
Arrows ("←" and "→") show the moving direction of the display.

① **Set cassette tapes in A and B decks.**

② **Set the input mode on amplifier to desired source.**

③ **Press REC key in A and B decks.**
REC mode indicator on the amplifier flashes and recording starts.

Timer recording



① **Set a cassette tape in A or B deck.**

② **To set the TIMER see the timer instructions (T-7X/T-7LX) "How to set program timer".**

③ **Set the TIMER switch to REC.**

④ **Turn the POWER switch of the tuner OFF.**

⑤ **Recording automatically starts at the timer ON timer.**
Setting cassette tapes in A and B decks operate relay REC from A deck.

Synchro recording

When recording the sound from the CD player (DP-770D) or turntable (P-7X) on the tape the recording operation on the cassette deck can be controlled according to the playing operation of the CD player or turntable.

Synchro Recording with CD Player (Common to A and B decks)

● Recording from CD player onto A deck

1. Set the INPUT SELECTOR of amplifier (A-7X) to CD.
2. Load a recordable cassette on A deck.
3. Set the DIRECTION MODE switch to " ⇄ " or " ⇉ ".
4. Set the DOLBY NR switch to B or C position if required.
5. While pressing the PAUSE (▮▮) key, press the ● REC key on A deck.
6. Press the PLAY/▮▮ PAUSE key on the CD player.
   The CD player starts the play and the cassette deck starts recording simultaneously. When the CD player finishes the play, the cassette deck will enter the stop mode after leaving approx. 4-second non-recorded section.
7. During Synchro Recording operation, when the PLAY/▮▮ PAUSE key is pressed on the CD player to set to the pause mode, the cassette deck will enter the record-pause mode after leaving approx. 4-second non-recorded section.
8. When the PLAY/▮▮ PAUSE key on the CD player is pressed again to restart the play, recording will resume on the cassette deck.
9. To stop recording temporarily, press the STOP (□) key on the CD player. The CD player will stop the play and the cassette deck will enter the stop mode after leaving approx. 4-second non-recorded section.

Synchro Recording From Turntable (optional) (Common to A and B decks)

● Recording from turntable onto A deck

1. Set the INPUT SELECTOR on the amplifier to PHONO.
   Perform the same procedures as 2. through 5. above (Synchro Recording from CD player).
6. Press the PLAY/CUT key on the turntable.
7. During record play, when the CUEING key is pressed to set to the pause mode, the cassette deck will enter the record-pause mode after leaving approx. 4-second non-recorded section.
8. When the CUEING key on the turntable is pressed again to restart the play, recording will resume on the cassette deck.
9. To stop recording temporarily, press the PLAY/CUT key on the turntable. The turntable will stop the play and the cassette deck will enter the stop mode after leaving approx. 4-second non-recorded section.

DPSS (Direct Program Search System)

The DPSS function on the X-7WX have the following convenient uses:

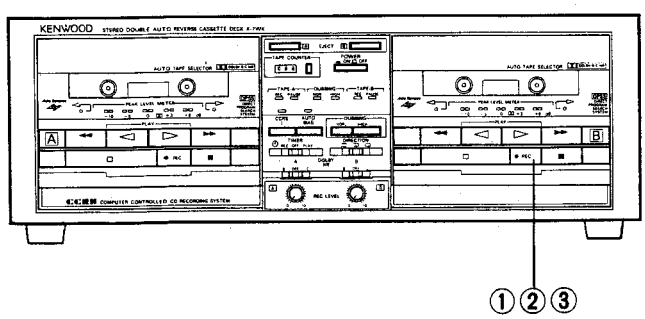
Notes:

DPSS function scans the blank sections between music selections which is longer than 4 seconds. Operation is not accurate on the following tapes.

1. With approx. a 4 second interval of voice such as in conversation or comedy albums.
2. With an exceedingly low tone or blank sections such as classical music.
3. With noise between music selections.
4. With an interval of less than 4 seconds between music selections.
5. Recorded with a low recording level.

ARM (Auto record mute)

Blank sections between music. (Same for A and B decks)



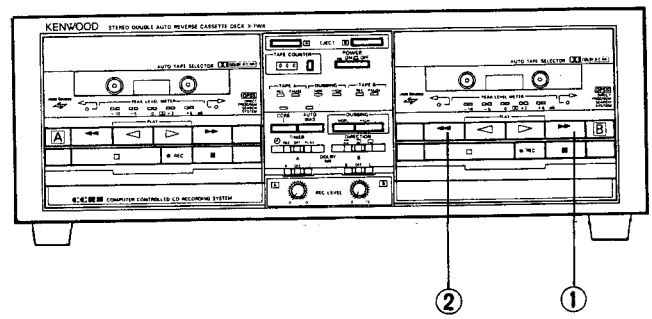
To make DPSS function effectively, how to place a pause between music selections is an important point.
Use REC (record) to create a blank section easily. This is convenient to eliminate advertising or unwanted conversation during FM air check or to edit while dubbing.

① **Press REC (record) key twice successively, creates a 4 second of blank section and recording pause.**

② **To make the blank section longer than 4 seconds, press REC (record) key twice, holding the key for the desired length. When the finger leaves, recording pauses.**

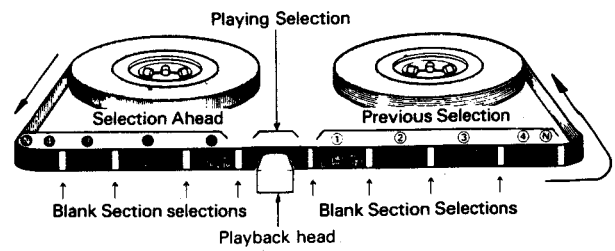
③ **To make the blank section shorter than 4 seconds, press REC (record) key twice to stop recording, then press REC within 4 seconds. Recording starts directly.**
Pressing PAUSE key (▮▮) within 4 seconds pauses the recording.

Skip selection forward (Same for A and B deck)



To listen to specific music which is ahead, not played yet, the following instructions are used.

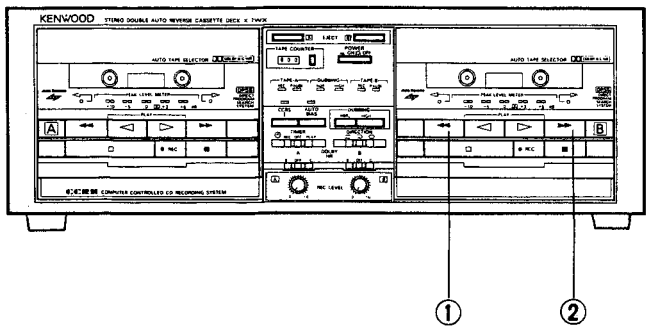
① **Press FAST FORWARD key (▶▶) when using forward play back.**
This skips to the next selection or for instance, if the desired selection is the 5th selection ahead press FAST FORWARD key 5 times.



- Press FAST FORWARD key (▶▶) 3 times for the 3rd selection ahead, 5 times for the 5th selection ahead, etc.

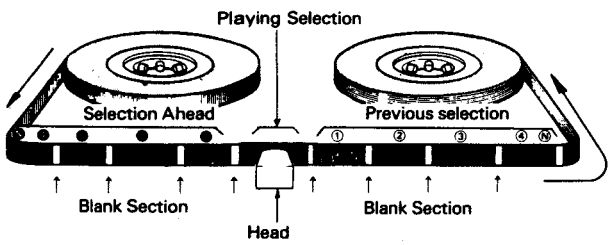
② **Press REWIND key (◀◀) when using reverse playback.**
The selection depends on the number of times the key is pressed.

Skip selection backwards (Same for A and B deck)



To listen to specific music which has played, the following instruction is used.

① **Press REWIND key (◀◀) when using forward playback.**
For instance, the desired selection is the 4th backwards including the music being played, then press REWIND key (◀◀) 4 times.
Press it once to return to the beginning of the selection being played.



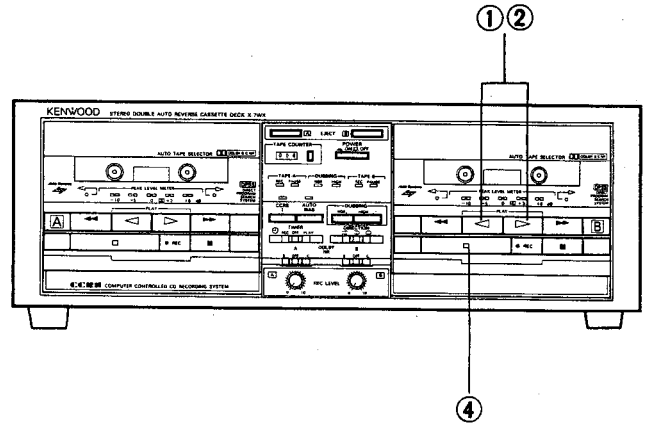
* To skip and select music, for a selection backwards from the music being played, press REWIND key 4 times, for 3rd selection. Press REWIND key (◀◀) 6 times for the 5th selection

② **Press FAST FORWARD key (▶▶) when using reverse playback.**
The selection depends on the number of times the key is pressed.

Note:

In skip selection program when DIRECTION key is set to reverse mode (⇄) or endless mode (↻), it operates on both sides.
Pressing REWIND key directly after the beginning of a selection or FAST FORWARD key directly before the end of a selection may cause a selection to be skipped.

Repeat playback (Same for A and B deck)



To repeatedly play the same selection, this operation is used. This is good for singing practice.

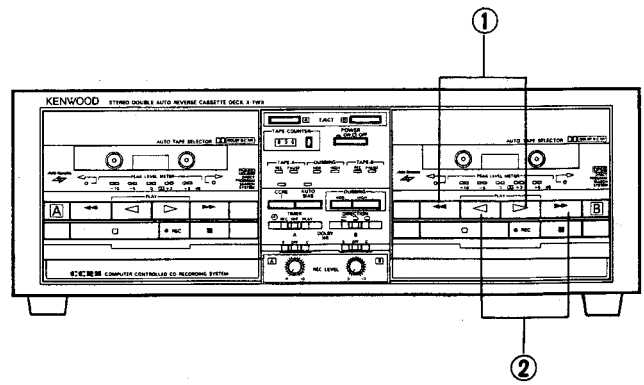
① **Press PLAY key (▷) or REVERSE PLAY key (◁) twice.**

② **While the desired music selection is playing, press PLAY key (▷) when using forward playback, press REVERSE PLAY key (◁) when using reverse playback.**

③ **Returns to normal play after repeating 16 times.**

④ **Press STOP key (□) to release.**

Rewind playback (Same for A and B deck)

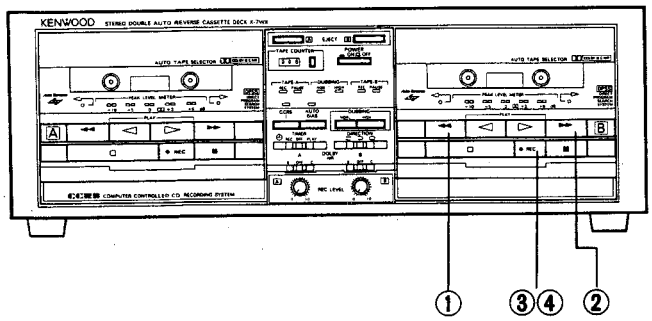


This is used to listen to a tape from the beginning which has not been played or rewound completely.

① **Press PLAY key (▷) and REWIND key (◀◀) at the same time to listen in a forward direction.**
This plays the tape from the beginning on the front side after winding the tape to the left reel.

② **Press REVERSE PLAY key (◁) and FAST FORWARD key (▶▶) at the same time to listen in a reverse direction.**
This plays the tape from the beginning on the back side after winding the tape to the right reel.

Re-rec standby



This is used to start recording over again after a mistake.
[The tape needs more than 4 second blank section before the recording.]

① **Press REWIND key (◀◀) when the tape being recorded is in the forward direction.**
Recording stops, the tape returns to the beginning of the recorded selection, puts a 2 second blank section after the previous selection and stops.

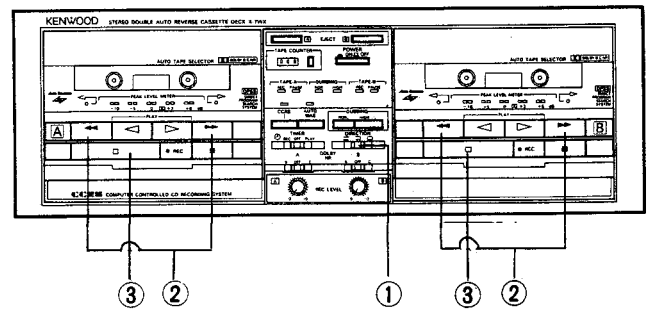
② **Press FAST FORWARD key (▶▶) when the tape is being recorded is in the reverse direction.**

③ **Press REC (record) key twice to put a 4 second blank section under the control of ARM (Auto Rec Mute).**

④ **Press REC (record) key to start recording again.**

Note:
Avoid using this function within approx. 3 seconds after recording has started as a malfunction will result.

Dush & Play (Same for A and B decks)



When the FAST FORWARD (▶▶) key and REWIND (◀◀) key are pressed simultaneously, the tape can be played back repeatedly while fast winding the blank section of more than approx. 10 seconds on one side or both sides.

① **Set the direction mode switch to "⇄" or "↻" position.**

② **Press the FAST FORWARD (▶▶) key and REWIND (◀◀) key simultaneously.**
Playback starts while fast winding the blank section of more than approx. 10 seconds.
When the direction mode switch is set to the "⇄" position, one side of the tape can be played back eight times then the deck stops. When the direction mode switch is set to the "↻" position, both sides of the tape can be played back 16 times continuously then, deck stops.

③ **To release the Dush & Play operation, press the STOP (□ key).**

Notes:
1. The tape will be played back in the direction indicated by the direction indicator.
2. The Dush & Play operation can be operated correctly only when the blank sections are more than approx. 10 seconds.
3. If the direction mode switch is set to the "⇉" position and the cassette tapes are loaded on both A and B decks, when one deck completes the Dush & Play operation, another deck enters the Dush & Play operation.

Quick reverse

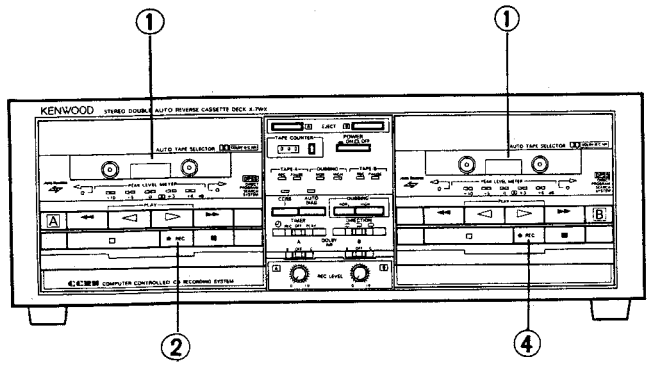
One second quick reverse shortens the momentary sound while playback or recording.
Quick reverse does not operate within 10 seconds after pressing PLAY key or REC key.
Pressing these keys near the end of the tape reverses it automatically.

IDRS (Isolated Dual Recording System)

The IDRS function of X-7WX advances the features of usual double cassette decks, "Long recording time", "Recording 2 tapes from the same source at the same time" and enables the following convenient uses.

To record each tape from different sources at the same time

(If a random function is available, recording with random editing is possible.)



① **Set tapes in A and B decks.**

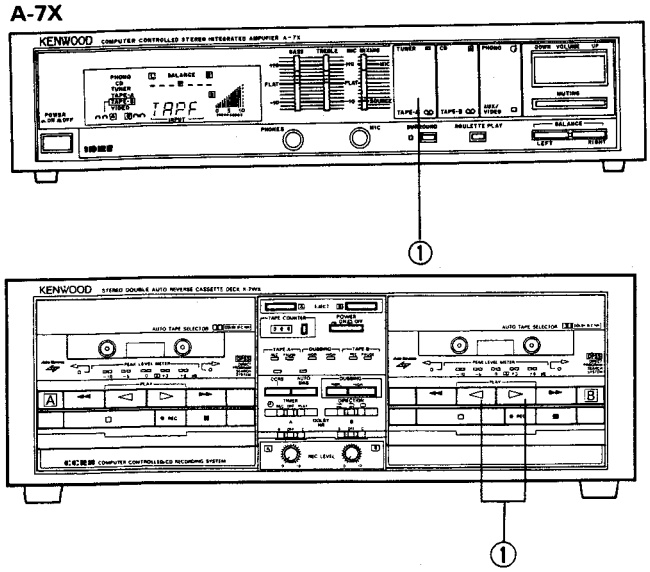
② **Select first source and press REC key on A deck.**
A deck starts recording.

③ **A deck starts recording.**

④ **Select the second source and press REC key on B deck.**
B deck starts recording and the IDRS indicator of the amplifier illuminates.

Playback during recording

A-7X



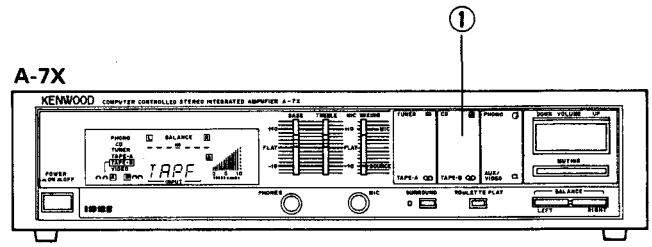
To play a tape in A or B cassette deck while recording in the other deck

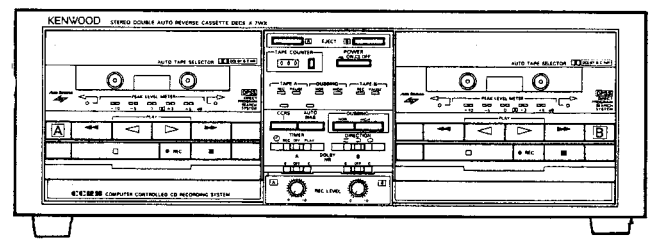
① Set a cassette tape in the deck which is not used for recording and press PLAY or TAPE key of the amplifier input mode.

Source monitor and recording monitor

To listen to a different source from the ones being recorded in A and B decks.
Returning from another source to monitor A or B deck is possible.

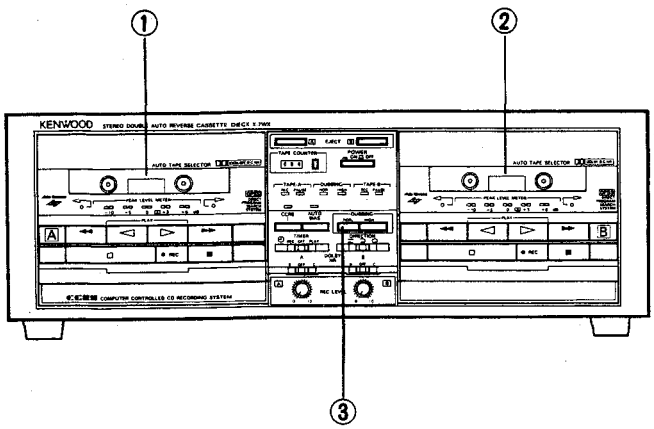
A-7X





① Press the input mode key of the amplifier or PLAY key of the desired source during recording in A and B decks.
② Press TAPE A or TAPE B key of the input mode on the amplifier to monitor A and B decks.

Normal dubbing (from A to B deck only)

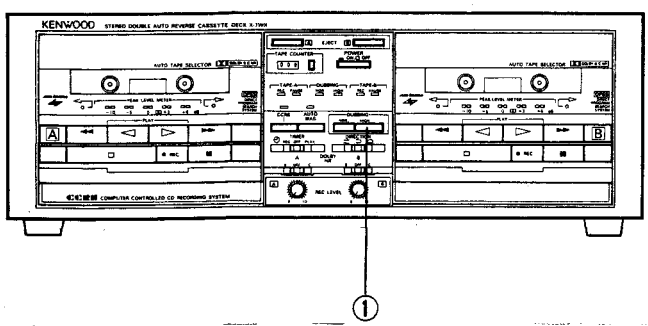


① **Set the original tape in A deck.**

② **Set a blank tape in B deck.**

③ **Press NORMAL DUBBING key.**
Dubbing from A to B deck starts. Pressing one of A deck's operation keys while dubbing puts A deck in that mode, places a 4 second blank section on B deck and recording pauses.
Press NORMAL DUBBING key again to re-start dubbing.
Pressing one of B deck's operation keys while dubbing, releases dubbing and puts B deck in that mode and A deck stops.
Pressing NORMAL DUBBING key flashes the REC indicator, and places approx. a 4 second blank section on B deck and dubbing pauses.
Press NORMAL DUBBING key again to re-start dubbing.

High speed dubbing



① **Press HIGH SPEED DUBBING key for rapid dubbing. (from A to B deck only)**
Pressing HIGH SPEED DUBBING key again places a blank section on the tape.

Notes on normal dubbing and high speed dubbing:

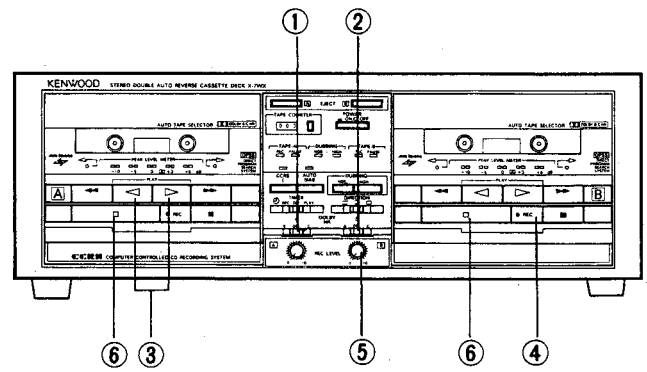
1. The recording level can not be controlled while dubbing. Set a tape which is recorded at the appropriate level in A deck.
2. DOLBY NR can not be changed while dubbing. (The tape will be a duplicate of the one in A deck.)
   Example: If the tape in A deck was recorded with DOLBY B, the tape in B deck will also be recorded with DOLBY B.
3. Set the original tape in A deck for better sound quality.

Manual dubbing

Manual dubbing enables dubbing from A to B deck or vice versa. The following ways of dubbing are available.

- **Cross Dolby system** changes the tape with DOLBY off to the tape with DOLBY on and vice versa.
- **Mixing dubbing** records the source mixed with a microphone.
- **Graphic equalizer dubbing** records the source through the graphic equalizer.

Cross Dolby System



The picture above shows cross Dolby system from A to B deck.

① **Set DOLBY NR to the tape in the playback deck.**

② **Set DOLBY NR on the recording deck to the desired position.**

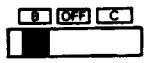
③ **Press PLAY key (▷) or REVERSE PLAY key (◁) on the playback deck.**

④ **Press REC (record) key on the recording deck.**

⑤ **Control the recording level by the REC LEVEL control on the recording deck.**

⑥ **Press STOP key (□) on A and B decks to release cross Dolby system.**

Tapes recorded with DOLBY NR and cross dolby

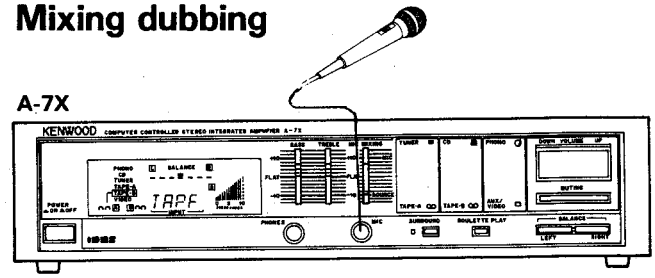
Playback (Select according to the tape).	**Recording** (Select as desired).	**Recorded tape**
		OFF→OFF
		OFF→B
		OFF→C
		B→OFF
		B→B
		B→C
		C→OFF
		C→B
		C→C

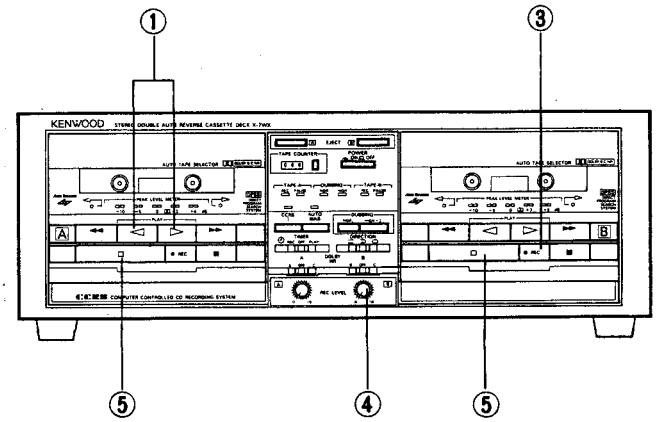
DOLBY and the double-D symbol are trademarks of Dolby Laboratories Licensing Corporation.
Noise reduction circuit made under license from Dolby Laboratories Licensing Corporation.

X-7WX (cassette deck) are produced based on the license of Dolby Laboratories Licensing Corporation.

Mixing dubbing

A-7X





① **Press PLAY key (▷) or REVERSE PLAY key (◁) on the playback deck.**

② **Operate Mic mixing control.**

③ **Press REC key on the recording deck.**

④ **Control recording level by REC LEVEL control on the recording deck.**

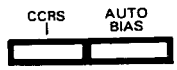
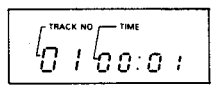
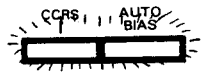
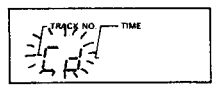
⑤ **Press STOP key (□) on A and B decks to release mixing dubbing.**

Graphic equalizer dubbing

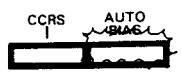
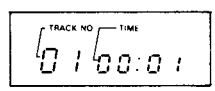
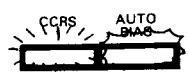
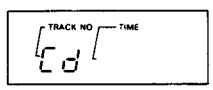
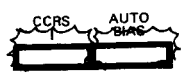
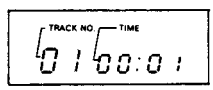
Records the source played through the graphic equalizer combined with (option) GE-900W (Stereo Double Graphic Equalizer).
For further details, see GE-900W instruction manual.

TO RECORD CD SOUND DIRECTLY TO TAPE (Disc-to-tape Direct Recording): CCRS (Computer CD Recording System)

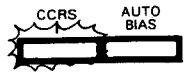
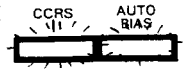
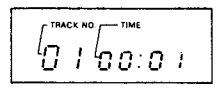
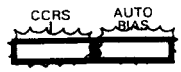
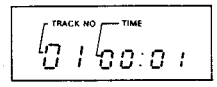
With this function, when used with the CD player (DP-770D), the CD sound can be recorded onto tape with optimum recording level.
Load a disc on the CD player and a recordable cassette on the B deck, then press the CCRS key. (Operation will be performed as in the table below.)

	Deck display	CD player display	Operations
1			Press the CCRS key on the cassette deck.
2			The CD player enters search mode to determine the optimum output level while the cassette deck starts Auto Bias operation. At this time, the CCRS and AUTO BIAS indicators blink on the cassette deck. (CCRS setting operation requires approx. 50 seconds for completion.)
3			After CCRS and Auto Bias settings are completed, the CCRS and AUTO BIAS indicator light, and the B deck starts recording from the CD player automatically.

● **When CCRS recording is continued with another disc onto the same tape**

	Deck display	CD player display	Operations
1			**After CCRS recording is finished:** With the CCRS and AUTO BIAS indicator lit or the cassette deck, when the disc tray of the CD player is opened, the CCRS indicator will go off and the optimum output level which is set by the loaded disc will be cleared.
2			Load a disc to be recorded next on the CD player then press the CCRS key on the cassette deck. Only the CD player will enter the search mode.
3			After CCRS setting is completed, recording will start automatically.

● When the tape is replaced

	Deck display	CD player display	Operations
1			**After CCRS recording is finished:** With the CCRS and AUTO BIAS indicator lit on the cassette deck, when the tape loaded on the B deck is ejected, the AUTO BIAS indicator will go off and the Auto Bias setting which is set with the loaded tape will be cleared.
2			Load a cassette to be used for the new recording on the cassette deck, and press the CCRS key. Only the cassette deck will enter the Auto Bias setting operating mode.
3			After the Auto Bias setting operation is completed, recording will start automatically.

In the above table, ▭ shows that the indicator lihgts and ▭ shows that the indicator blinks.

- Memory CCRS:
  After programming memory on the CD player, when the CCRS key is pressed, the programmed tunes can be recorded onto the tape in the programmed order.
- To temporarily stop CCRS recording, press the PLAY/❚❚ PAUSE key on the CD player. The cassette deck will enter the record-pause mode after leaving approx. 4-second non-recorded section.
  To release CCRS record-pause mode, press the PLAY/❚❚ PAUSE key on the CD player again.

Note:

1. When the CD player is not connected, when the disc is not loaded on the player, or when the power of the CD player is not turned ON, the CCRS key does not function. The indicators will go off approx. 10 seconds after the CCRS key is pressed.
2. During the CCRS setting operation (indicators blink), when the STOP key of the B deck or the CD player is pressed, the CCRS mode is cancelled and both deck and CD player will enter the stop mode. At this time if the Auto Bias setting operation is comleted, it will be maintained.
3. To release the CCRS mode after setting has been completed, open the disc tray or turn the power of the CD player OFF.
4. To release the Auto Bias after setting has been completed, press the EJECT key of B deck to open the cassette door or turn the power of the cassette deck OFF.
5. During the playing of the CD player, when the CCRS key is pressed, the CD play will be interrupted and enter CCRS operation.
6. If the remaining time of the tape is quite a low, the CCRS operation may be cancelled in the middle.
7. Since the peak level on the disc is detected in approx. 50 seconds for the CCRS operation, the optimum level may not be obtained on some discs. In this case, record it with the normal recording operation.

Roulette play

This function continuously plays music which is selected at random by micro computer from the possible devices. BGM never becomes tired because of the enjoyable fun.

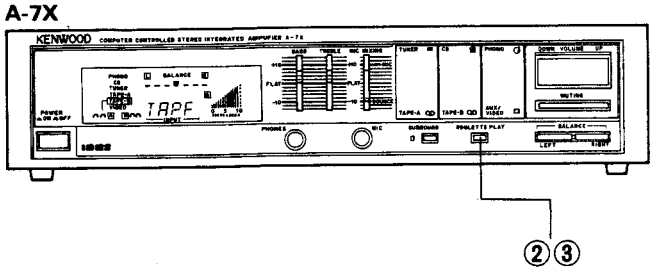
Possible devices for ROULETTE PLAY

- Turntable: P-7X
- Cassette Deck: X-7WX (B deck)
- Compact Disc player: DP-770D

Cassette deck (X-7WX) an compact disc player (DP-770D option) in the system are available for ROULETTE PLAY.

Roulette play

A-7X



① **Set a compact disc, a record or cassette tape.**
Set DIRECTION key on the cassette deck to the desired position.

② **Press ROULETTE play key on the amplifier (A-7X).**
When the switch is pressed, roulette play display illuminate indicating the system is in the roulette play mode.

③ **Press ROULETTE play key to release.**

Notes:

1. roulette play can not be operated while recording in a cassette deck.
2. Pressing STOP key on the device playing while in roulette play mode changes the source and continues to play.
3. Only STOP keys on devices (PLAY/CUT on the player) function while in roulette play mode.
4. The device which source is not set to play is skipped.
5. Input mode does not function during roulette play.

Check that roulette play indicator is OFF when roulette play is not used.

Maintenance

Easy care

Cleaning around head

The recording and playback head becomes dirty with microscopic (1/1000mm) dust.
Clean the erasing, recording and playback heads, capstan and pinch roller approx. every 10 hours of use for best results.

1. Press EJECT to open cassette holder.
2. Clean erasing, recording and playback heads, capstan and pinch roller with an cotton swab. Wipe with a dry cloth.

Note:
Some parts are precise such as the tape guide. Avoid catching the cloth or a strong impact.

Erasing the magnetism from the head

Otherwise, noise will result when recording and playing. Use a head eraser sold in stores.

When your unit needs to be repaired, bring the entire set (speakers excluded) to your dealer.

Note:
DOLBY and the double-D symbol are trademarks of Dolby Laboratories Licensing Corporation.
Noise reduction circuit made under license from Dolby Laboratories Licensing Corporation.

In case of difficulty

It is surprising how operational errors cause trouble sometimes. Before you make a service call, please check the following points.

To operate properly as it incorporates micro computers, avoid outside disturbing noise.

Symptom	Causes	Remedy
Malfunction of AUTO REVERSE (Reverses direction during operation or stops).	1. Tape has a scratch, fold or dirt on it. 2. Tape is stretched and out of shape. 3. Tape lost its magnetism.	1,2 Change tape or alter DIRECTION to NORMAL mode. 3. Change tape.
The figures on the tape counter do not match after changing a tape (tape C-46 and C-60).	Thickness of tape or hub diameter is different.	Difference of tapes, not damaged.

Symptom	Causes	Remedy
Tape does not wind.	1. Tape is wound to one side. 2. Tape is slacken. 3. Tape is unevenly wound and becomes heavy.	1. Rewind tape or reverse it. 2. Take up the slack with a pencil. 3. Change tape.
Pressing REC does not start recording.	1. Erase proof tab is broken. 2. Cassette holder is not closed completely. 3. Recording volume is minimum.	1. Provide a tape with the erase proof tab (tape over the erase proof notch). 2. Close the holder completely. 3. See "How to Record" on page 8.
Pressing PLAY does not start playing.	1. Wrong connection. 2. Dirty head. 3. Tape is unevenly wound and becomes heavy. 4. Tape is not recorded.	1. See "CONNECTIONS" on page 3. 2. See "Easy Care" on page 23. 3. Change tape. 4. Set a recorded tape.
Sound becomes hoarse or loss of high tone.	1. Dirty head. 2. Tape is stretched and out of shape.	1. See "Easy Care" on page 23. 2. Change tape.
Sound warp.	1. Recording volume was too high while recording. 2. Source has a warp.	See "How to Record" on page 8.
Loud noise.	1. Head is magnetized. 2. Outside noise. 3. Recording level is low. 4. DOLBY NR is off when playing a tape recorded with DOLBY NR.	1. Use a head eraser. 2. Separate from other electrical appliances. 3. See "How to Record" on page 8. 4. Turn on DOLBY NR. Setting DOLBY NR to ON during recording, is recommended.
Sound vibrates.	1. Dirt on the capstan or pinch roller. 2. Tape is not wound evenly.	1. See "Cleaning Around Head" on page 23. 2. Wind the tape again using FAST FORWARD or REWIND.
B deck will not run.	1. DUBBING switch is set to ON. 2. DUBBING switch is set to ON and A deck is in playback mode.	1. Set the DUBBING switch to OFF. 2. Stop A deck.
Sound will not come from B deck.	DUBBING switch is set to ON and A deck is in playback mode.	Set the DUBBING switch to OFF and stop A deck.
Malfunction of DPSS.	Tape used is not suitable for DPSS such as a short blank section between selections.	See "DPSS" on page 13.
Slight difference in the ending of A and B decks during dubbing.	Because of uneven length of tapes and the mechanism characteristics of the decks.	A slight difference will not cause damage.
Door cannot be opened by pressing EJECT. **Door does not open when EJECT is pressed during recording or playback.**	The button is pressed during recording or play.	Stop the recording or playback then press EJECT.
Does not operate when operation keys are pressed.	1. Keys are pressed within 3 seconds after turning power on. 2. Tape is not loaded. 3. Tape is wound unevenly and becomes heavy.	1. Press operation keys for 3 seconds or more after turning power on. 2. Load a tape. 3. Change tape.

Caution: Avoid using 120 minute tapes because they are too thin, stretch and become out of shape amplifier.

Specifications

Type	Front Loading Auto-Reverse & Double Stereo Cassette Deck
Track System	4-track, 2-channel stereo/mono, recording/playback
Recording System	AC bias system (Bias frequency: 105 kHz)
Erasing System	AC system
Tape Speed	4.76 cm/sec (1-7/8 ips)
Heads	Hard permalloy playback/record head × 2
	Double gap ferrite erasing head × 2
Motor	2-Speed DC servo motor × 2
Fast Winding Time	Approx. 80 seconds with C-60 tape
Frequency Response:	
Normal Tape	20 Hz to 16,000 Hz (30 Hz to 15,000 Hz, ± 3 dB)
CrO_2 Tape	20 Hz to 17,000 Hz (30 Hz to 16,000 Hz, ± 3 dB)
Metal Tape	20 Hz to 17,000 Hz (30 Hz to 16,000 Hz, ± 3 dB)
Signal-to Noise Ratio:	
Dolby C Type NR ON	75 dB (Metal tape)
Dolby B Type NR ON	67 dB (Metal tape)
Dolby NR OFF	58 dB (Metal tape)
Harmonic Distortion	Less than 1.0% (at 1 kHz, 0 VU 3rd H.D. metal tape)
Wow and Flutter	0.09% (W.R.M.S), ± 0.18% (DIN)
Input sensitivity/Impedance:	
LINE × 2	77.5mV/50 kohms
Output Level/Load Impedance:	
LINE × 2	270 mV/6.8 kohms
Power Consumption	22W
Dimensions	W: 340 mm (13-3/8")
	H: 119 mm (4-11/16")
	D: 340 mm (13-3/8")
Weight	5.8 kg (12.8 lb)
Reference Tapes	Normal: KENWOOD ND-54, TDK AD C-60
	CrO_2: KENWOOD CD-54, TDK SA C-60
	Metal: KENWOOD MD-46, TDK MA C-60

Note:

We follow a policy of continous advancements in development.
For this reason specifications may be changed without notice.